



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/989,881	11/21/2001	Takayuki Sato	04610.005001	1502
7590 07/12/2005			EXAMINER	
JONATHAN P. OSHA ROSENTHAL & OSHA L.L.P. 1221 MCKINNEY STREET ONE HOUSTON CENTER ,SUITE 2800 HOUSTON, TX 77010			KHOO, FOONG LIN	
			ART UNIT	PAPER NUMBER
			2664	

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/989,881	Applicant(s) SATO, TAKAYUKI	
	Examiner F. Lin Khoo	Art Unit 2664	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>4/11/2002</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 22-28 and 43-44 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 22-28 discloses a wireless interconnecting device (or a means) that provides a multitude of functions related to determining the tagging and un-tagging of a received packet in a VLAN environment based on criteria of unicast or broadcast using the destination MAC address and destination IP address accordingly and then forwarding the packet based on the decision. The claims recite merely one means plus a statement of functions and nothing else. This is considered a single means claim since the device that is claimed covers every conceivable structure (means) for achieving the stated property (result) is held nonenabling for the scope of the claim

Art Unit: 2664

because the specification discloses at most only those means known to the applicant (In re Hyatt, 708 F.2d 712, 714-715, 218 USPQ 195, 197 (Fed. Cir. 1983).

Claims 43-44 discloses an administration device (or a means) in a LAN system to perform multiple functions relating to (1) receiving device identification information of a moved terminal from a interconnecting device to which the terminal is moved (2) judging that the terminal is moved when a discrepancy of information on a terminal having the device identification information is found in a database composed of information on terminals stored in advance together with the device identification information, (3) after updating database, transmits the updated data to the interconnecting device from which the device identification information is transmitted and instructing a interconnecting device from which the terminal is moved to delete the device identification information of the terminal and related information and a LAN system to which network devices are connected to exchange packets comprising an administrative device for performing administration of the system according to the functions as stated in (1) through (3). The claims recite merely one means plus a statement of functions and nothing else. The claims recite several elements, including administration device, database for updating and interconnecting device. This is considered a single means claim since the device that is claimed covers every conceivable structure (means) for achieving the stated property (result) is held nonenabling for the scope of the claim because the specification discloses at most only

Art Unit: 2664

those means known to the applicant (In re Hyatt, 708 F.2d 712, 714-715, 218 USPQ 195, 197 (Fed. Cir. 1983).

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 29-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The scope of the claims does not ascertain the metes and bounds of the claimed invention making the scope of the claims unclear as to which specific VLAN function(s) is actually cited.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 8-14, 39-41 and 42 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 8-14 and 39-41, discloses a program which enables the claimed functions to be performed by merely a set of instructions in a computer listings per se capable of being executed by a computer, the computer program itself is not a process

Art Unit: 2664

and without the computer-readable medium needed to realize the computer program's functionality it is considered a nonstatutory functional descriptive material.

Claim 42 discloses a recording medium on which recorded is a program to perform the function as claimed. In such a case, the recording medium is nothing more than a carrier for nonfunctional descriptive material and the purely nonfunctional descriptive material cannot alone provide the practical application for the manufacture.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 36-38 are rejected under 35 U.S.C. 102(e) as being anticipated by Ambe (U.S. Patent No. 6,873,602).

Regarding Claim 36, Ambe discloses a method for detecting a movement of a terminal in a LAN system, comprising the steps of:

receiving, in an administrative device, device identification information of a moved terminal transmitted from a interconnecting device to which the terminal is moved (FIG. 2, col 4, lines 55-58), and

judging that the terminal is moved when a discrepancy of information on the terminal having the device identification information is found in a database composed of information on terminals stored in advance in said administrative device together with the device identification information (col 4, lines 60-66).

Regarding Claim 37, Ambe discloses a method for detecting a movement of a terminal in a LAN system according to claim 36, wherein, when a discrepancy of information on a terminal having the device identification information is found, said administrative device updates said database and transmits the updated data to the wireless interconnecting device from which the device identification information is transmitted (col 4, lines 66-67 and col 5, lines 1-9).

Regarding Claim 38, Ambe discloses a method for detecting a movement of a terminal in a LAN system according to claim 37, wherein, when the discrepancy of the information on the terminal having the device identification information is found, said administrative device instructs a interconnecting device from which the terminal is moved to delete the device identification information of the terminal and related information (col 5, lines 10-13, Refer to FIG. 11(c) and col 10 line 1, col 10 lines 3-6).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-7 and 15-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Dobbins et al. (U.S. Patent No. 5,684,800) in view of Meier (U.S. Patent No. 6,847,620).

Regarding Claims 1 and 15, Dobbins et al. discloses a packet switched data communications network (a wireless) VLAN construction method in a network (wireless LAN) system in which a LAN backbone line wired with network devices is provided with end systems (wireless terminals) enabled to exchange packets with wired side via a switch (wireless interconnecting device), wherein in said switch (wireless interconnecting device), a VLAN group is assigned to each of the end systems (wireless terminals) belonging to the switched data communications network (wireless) switch (interconnecting device) based upon a MAC address of each of the end systems (wireless terminals), and administrative information on the end-systems (wireless terminals) is stored (col 2, lines 62-63), and

Art Unit: 2664

in the switch (wireless interconnecting device), whether a received packet is tagged or untagged is judged, and, in a case where the packet is judged to be tagged, the packet is transmitted with a tag removed when the packet is unicast and needs to be transmitted to a wireless terminal belonging to the wireless interconnecting device, while the packet is transferred when the packet is broadcast, and transmitted with the tag removed when the packet is broadcast and needs to be transmitted to a wireless terminal belonging to the wireless interconnecting device (see Abstract), and, in a case where the received packet is judged to be untagged in the judgment whether the received packet is tagged or untagged, when the untagged packet is unicast, a corresponding VLAN identifier is obtained from said administrative information based upon a destination MAC address (col 4, lines 46-48) of the packet and the packet is transferred with the VLAN identifier attached thereto (col 8, lines 43-49), while, when the untagged packet is broadcast, a corresponding VLAN identifier is obtained from said administrative information based upon a destination IP address (FIG. 4-B, steps 310 and 311, col 5, lines 13-16 and col 4, lines 50-54) of the packet and the packet is transferred with the VLAN identifier attached thereto, and thereby the switched network (wireless) VLAN is realized (col 6, lines 13-20).

Regarding Claims 3 and 17, Dobbins et al. discloses a VLAN construction method in a switched network (wireless) LAN system, wherein when the received packet is tagged and broadcast, whether or not the packet needs to be transmitted to the wireless terminal belonging to the wireless interconnecting device is judged

Art Unit: 2664

according to a judgment whether or not a wireless terminal belonging to the same subnetwork as the subnetwork to which the destination IP address of the packet belongs exists in said administrative information, and, when the wireless terminal is judged to exist in said administrative information, the packet is judged to be transmitted to the wireless terminal belonging to the wireless interconnecting device (Fig 4-B (steps 309, 310, 311), col 5, lines 8-13 which describes a protocol-specific call processor to find the network protocol source and destination addresses. It is inherent that the protocol-specific is related to the IP-layer 3 protocol that uses IP addressing scheme with subnet determination).

Regarding Claims 4 and 18, Dobbins et al. discloses a VLAN construction method in a switched network (wireless) LAN system, wherein in the judgment whether or not the wireless terminal belonging to the same subnetwork as the subnetwork to which the destination IP address of the packet belongs exists in said administrative information, when the wireless terminal is judged not to exist in said administrative information, a VLAN identifier is obtained from the packet to judge whether or not the VLAN identifier exists in said administrative information, and, when the VLAN identifier is judged to exist in said administrative information, the packet is judged to be transmitted to the wireless terminal belonging to the wireless interconnecting device (Fig 4-B (step 312), col 5, lines 14-16 and col 6, lines 13-20).

Regarding Claims 5 and 19, Dobbins et al. discloses a VLAN construction method in a switched network (wireless) LAN system, wherein in a case where the received packet is the untagged packet and unicast, transferring of the packet to which the VLAN identifier obtained based upon the destination MAC address of the packet is attached is executed when whether or not the destination MAC address of the received packet exists in said administrative information is judged and the destination MAC address is judged not to exist in said administrative information, the acquisition of the VLAN identifier from said administrative information based upon the destination MAC address being executed by obtaining the source MAC address from the received packet and then obtaining the VLAN identifier corresponding to the source MAC address from said administrative information (col 4, lines 46-48 and col 8, lines 43-49 which describes a "generic" call processor where the VLAN-ID is determined by using source and destination MAC addresses and the original packet with the VLAN-ID in the packet is sent out the port on which the end system belongs).

Regarding Claims 6 and 20, Dobbins et al. discloses a VLAN construction method in a switched network (wireless) LAN system, wherein in a case where the received packet is the untagged packet and broadcast, transferring of the packet to which the VLAN identifier obtained based upon the destination IP address of the packet is attached is executed when whether or not a wireless terminal belonging to the same subnetwork as the subnetwork to which said destination IP address belongs exists in said administrative information is judged and the wireless terminal is judged to exist in

Art Unit: 2664

said administrative information, by obtaining the VLAN identifier of the wireless terminal from said administrative information and attaching the obtained VLAN identifier to the untagged packet (Fig 4-B (steps 309, 310, 311, 312), col 5, lines 8-16, col 7, lines 47-50 which describes the VLAN call processor that would take any packet it receives and then encapsulating the broadcast/multicast packet in a header, the header containing a list of VLAN-Ids on which the packet belongs. In the case of claims 6 and 20, the VLAN-ID can be determined based on the target (destination) IP address in steps 309, 310, 311 and 312 of Fig 4-B).

Regarding Claims 7 and 21, Dobbins et al. discloses a VLAN construction method in a switched network (wireless) LAN system, wherein in a case where the received packet is the untagged packet and broadcast, transferring of the packet to which the VLAN identifier obtained based upon the destination IP address of the packet is attached is executed when a wireless terminal belonging to the same subnetwork as the subnetwork to which the destination IP address belongs is judged not to exist in said administrative information, by obtaining the source MAC address from the untagged packet and then obtaining the VLAN identifier corresponding to the source MAC address from said administrative information and attaching the obtained VLAN identifier to the untagged packet (col 7, lines 47-57).

With respect to Claims 1-7 and 15-21, Dobbins et al. does not disclose a wireless VLAN/LAN network system. Meier discloses a VLAN networking in a wireless

Art Unit: 2664

environment which permits logical grouping of wireless devices/stations regardless of physical location. In addition, such mobility implies that devices can be moved from one switch port to another switch port without reconfiguring the network layer stack. The devices maintain a logical VLAN assignment (col 1, lines 46-51). It would have been obvious to a person of ordinary skill in the art to incorporate the teachings of Meier to the system of Dobbins et al. thereby providing wireless communication capability to the end systems with the additional flexibility of roaming and connecting from one VLAN to another VLAN for enhanced mobility.

11. Claims 2 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dobbins et al. (U.S. Patent No. 5,684,800) in view of Ambe (U.S. Patent No. 6,873,602).

Regarding Claims 2 and 16, Dobbins et al. fails to disclose the administrative information which includes the VLAN identifier, the IP address and a subnet mask related to the MAC address. Ambe discloses a VLAN construction method in a network (wireless) LAN system wherein said administrative information includes the VLAN identifier, the IP address and a subnet mask related to the MAC address of the terminal station (wireless terminal) (see FIG. 7, FIG. 8 and FIG. 9). Therefore, it would have been obvious to one skilled in the art to use the tables (switch data table (FIG.7), terminal data table (FIG. 8) and virtual ID table (FIG. 9)) containing the network addressing scheme as taught by Ambe in the Dobbins et al. switched network to uniquely manage and map the various addresses to VLAN Ids such that the switches

Art Unit: 2664

can automatically reconfigure its VLAN topology when a terminal station is relocated or newly added.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 6,115,379 to Flanders et al. describes a unicast, multicast and broadcast method and apparatus.

U.S. Patent No. 6,075,776 to Tanimoto et al. describes a VLAN control system and method.

U.S. Patent No. 5,751,967 to Raab et al. relates to a method and apparatus for automatically configuring a network device to support a virtual network.

U. S. Patent No. 5,920,699 to Bare relates to broadcast isolation and level 3 network switch.

U.S. Patent No. 6,157,647 to Husak relates to a technique of direct addressing between VLAN subnets.

The five prior arts are cited to further show the state of the art with respect to VLANs and management of addressing protocols in general.

Art Unit: 2664

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to F. Lin Khoo whose telephone number is 571-272-5508.

The examiner can normally be reached on flex time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 571-272-3134. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



WELLINGTON CHIN
SUPERVISORY PATENT EXAMINER